

Attorney's Docket No.:06618/692001/CIT 3277

REMARKS

Reconsideration and allowance of the above-referenced application are respectfully requested.

Claim 1 stands rejected under 35 USC 112, first paragraph, as allegedly not being supported. The rejection states that there is no disclosure of the inner core portion. However, this is disclosed in many spots throughout the specification including page 4 line 7, and other spots that are too numerous to mention. It is well known that the core is inside the clad, and the clad is also disclosed. In addition, page 5 lines 5-7 explains that the cladding layer is formed on the surface of the waveguide, thus making the core portion an inner core portion. In order to obviate any objections to the word "inner", this word has been removed from the claim.

Claims 4, 10, 12 and 14 stand rejected under 35 USC 112, second paragraph, as allegedly being indefinite. Apparently claim 2 and others were also included within this rejection. The rejection to claim 2 states that it is not clear whether the pump laser pumps the cladding layer directly or indirectly. Claim 2 was in fact intended to be sufficiently broad to encompass both alternatives, even though no "waveguide coupled to the resonator" is part of the claimed combination of claim 2. Claim 4 has been canceled to obviate the rejection thereto.

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The antecedent basis rejections have been obviated by their amendment herein.

The examiner's comment about claim 10 is not understood since claim 10 depends from the method claim 8, and has nothing to do with claim 1.

Similarly, claim 12 specifically initially recites the core and the clad, and therefore the lack of antecedent basis rejection appears to be inappropriate. Claim 12 does not refer back to some other claim for agreement of the core and clad, and therefore it is respectfully suggested that the objection is inappropriate.

Claim 16 is an independent claim, and it is not clear why it would be indefinite for the language to not be "initially introduced by a previous claim".

Claims 1 and 5-7 stand rejected under 35 USC 102(b) as allegedly being anticipated by Little. This contention is respectfully traversed, and it is respectfully suggested that the rejection does not meet the patent office's burden of providing a *prima facie* showing of unpatentability.

Little admittedly does show a disk shaped resonator, but disk shaped resonators are of course well-known. What Little does not do, however, is show the important claim limitation of amplifying the optical energy that is in the core portion. The cited portions of Little describe structure of a ring resonator

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as having a higher index material surrounded by a lower index material to produce a high confinement waveguide. Other parts within Little describes this waveguide structure and the interaction with external structures to route the signal from one waveguide 304 to the other waveguide 310. Effectively, the resonator 302 will react to power in the waveguides to the extent that the power in the waveguide is resonant with the resonant frequency of the resonator 302. However, there is nothing that describes or would be used to amplify the optical energy in the core portion. In fact, in order to amplify this optical energy, there must be an external source of power. Without an external source of power, there can be no amplification. Little teaches nothing about such an external source of power, and therefore it is respectfully suggested that Little cannot amplify the optical energy in the core portion without defying the laws of conservation of energy. For these reasons, it is respectfully suggested that the rejection of claim 1 is incorrect and should be withdrawn.

Claims 2-4 stand rejected based on Little in view of King. The King reference teaches a laser source which is used to pump an erbium-doped amplifier. However, nowhere is there any teaching or suggestion is King doing this in an optical disk shaped resonator, which is in the shape of a disk as claimed. King demonstrates that it is known to pump an erbium doped

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fiber, but this is very different then pumping the signal in a disk shaped resonator. The hypothetical combination of King in view of Little therefore would probably teach a King type amplified fiber along with a Little type ring resonator. There is nothing in either reference, or in the combination of references, which would lead one having ordinary skill in the art to amplify/pump the resonator instead of pumping the fiber. Quite simply, it is hindsight to even suggest that one having ordinary skill in the art would look to the King reference, since nothing in Little or King suggests optically amplifying the signal to a disk shaped resonator.

The dependent claims, and the other claims in the case should be allowable for similar reasons to those discussed above. Claim 8 specifies amplifying the light in the optical disk shaped resonator. This is not in any way taught or suggested by the cited prior art. Claim 16 specifies a pump laser which drives the active clad until the optical resonator spontaneously emits light. This is not taught or suggested by the cited prior art, for reasons stated above.

In view of the above amendments and remarks, therefore, all of the claims should be in condition for allowance. A formal notice to that effect is respectfully solicited.

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Respectfully submitted,

  
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